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The greatest blemish on the map, from the geographic point of view, is its total ignorance of the results of the Mylius Erichsen Expedition of 1907-08. The absence of the characteristic Northeast Foreland of Greenland on a map bearing date of 1911 is a *lacuna* indeed, which, in this case, is emphasized all the more by the relatively large scale of the map. The inclusion of the geology of regions not belonging to North America, such as Iceland, northern Colombia and northwestern Venezuela shows that it is the intention of the compilers to portray the entire area enclosed within the borders of the map and renders difficult the validity of an excuse for the above omission. The non-inclusion of Hansen's survey of the King Haakon VII Coast of Victoria Island is further evidence of unfamiliarity with recent explorations—a condition unfortunately already apparent on the edition of 1906, which failed to show the result of Amdrup's survey in 1898-1900 of the coast of King Christian IX Land of Greenland ( $34^{\circ}$ – $25^{\circ}$  W.). It is only fair to state that this omission has been rectified on the present edition.

These criticisms, however, must in no way be allowed to obscure the fact that the new edition of the Geologic Map of North America is the unquestioned standard in its field. It is indeed fortunate for us, with our dearth of private map-publishing houses doing constructive work of a scientific nature, that such institutions as the Geological Survey do not conceive their work to be limited to the production of raw material, but extend their field of activity to synthesis and generalization. For this, geography—for are not these two qualities its very philosophy of life?—and especially American geography, should be extremely grateful.

W. L. G. J.

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## GEOGRAPHICAL RECORD

### THE AMERICAN GEOGRAPHICAL SOCIETY

MEETINGS OF THE SOCIETY. A regular meeting of the Society was held at the Engineering Societies' Building, No. 29 West Thirty-ninth Street, on Tuesday evening, Nov. 21, 1911. Vice-President Greenough in the Chair. The following persons recommended by the Council were elected to Fellowship:

Miss Mura Bayly,	Dr. Francisco P. Moreno,
Eugene S. Benjamin,	George B. Shattuck,
Samuel S. Dennis,	John T. Terry, Jr.,
H. Palmer Gallaher,	Theodore Dehon Wilson,
Lawrence Lewis Gillespie,	Edwin O. Wood,
William J. Matheson,	C. Wickliffe Yulee.

The Chairman then introduced Prof. Charles E. Fay, recently President of the American Alpine Club, who addressed the Society on "The Majesty of the Mountain." A large number of stereopticon views were shown.

A meeting of the Society was also held at the same Hall on December 26,

1911. Vice-President Greenough in the Chair. On recommendation of the Council, the following persons were elected to Fellowship:

Lieut. Donald Armstrong,	William Hallock,
Enoch Henry Currier,	William Williams.

The Chairman then introduced Mr. Walter McClintock, who addressed the Society on "The Land of the Blackfeet." Mr. McClintock had lived among this tribe for two years. His illustrations included a few moving pictures showing small pack trains in camp or on the march, Blackfeet dances, etc.

#### NORTH AMERICA

PROF. PARKER'S NEXT ATTEMPT ON MT. MCKINLEY. Prof. Herschel C. Parker of Columbia University sailed from Seattle on Jan. 24 for Alaska to begin, from the town of Seward, a winter journey to Mt. McKinley, which he hopes to ascend. His companions are Belmore Brown of Tacoma, Arthur Aten of Valdez, Alaska and Merl La Voy, all of whom participated in his Mt. McKinley expedition of 1910. The party will start from Seward with dogs and sleds, follow the line of the Alaska Central R.R., and then the regular trail to the Susitna Station, about 22 miles above the mouth of the Susitna R. Beyond this point they will have to break their own trail.

The party will go up the Susitna R. on the ice to the Forks at Talkeetna, about 65 miles above Susitna Station. Here the Talkeetna R. comes in from the east and the Chulitna from the west. They will follow the latter towards its headwaters until they can find a pass over the Alaskan Range. If they succeed in crossing the Range they will be on the northeastern side of Mt. McKinley and will make their attempt on the mountain itself from that side.

Two sledges, drawn by Eskimo dogs in charge of Aten, will carry the outfit including provisions, the whole weighing about 2,000 pounds. The base camp will be pitched at the highest point that it is possible to take the whole outfit. A still higher camp will be made at the highest point where the dogs and sledges can be used, and here the animals and sleds will be left in charge of one member of the party until the return from the summit. Prof. Parker hopes to reach the mountain by March 15, and to attack the harder part of the climb by April 1.

OUR LARGEST OUTPUT OF PETROLEUM. The Advance Chapter on Petroleum from "Mineral Resources of the United States" for 1910 says that over 200,000,000 barrels of oil, valued at nearly \$128,000,000 were produced in the United States in 1910. Our petroleum industry has been marked by phenomenal increase in recent years. It passed the 100,000,000-barrel mark in 1903, was over 170,000,000 barrels in 1904, fell to 135,000,000 barrels in 1905 and rose to 178,000,000 barrels in 1908, 183,000,000 barrels in 1909 and 299,556,048 barrels in 1910. The total output of our petroleum industry to this time is more than two billion barrels. The United States is now producing more than all the rest of the world together. California heads the list of producers in 1910 with 73,010,560 barrels. The second among the oil producing states in 1910 was Oklahoma with 52,028,718 barrels. The output of these two states is practically equal to the entire foreign production. The third largest producer was Illinois with 33,143,632 barrels. There are now 148,440 oil wells in operation in the country.

OUR IRON AND STEEL INDUSTRY IN 1910. The U. S. Geol. Survey *Press Bul-*

*letin* (New Series No. 24) reports that in 1910 the iron ore production of the United States was 56,889,734 long tons, the pig iron production 27,303,567 tons, and the steel production 26,094,919 tons. These figures surpass all previous records. The following table shows the enormous growth of the iron and steel industry in the United States since 1900:

	IRON ORE	PIG IRON	STEEL
1900.....	27,553,161	13,789,242	10,188,329
1905.....	42,526,133	22,992,380	20,023,947
1906.....	47,749,728	25,307,191	23,398,136
1907.....	51,720,619	25,781,361	23,362,594
1908.....	35,924,771	15,936,018	14,023,247
1909.....	51,155,437	25,795,471	23,955,021
1910.....	56,889,734	27,303,567	26,094,919

PROFESSORS TARR AND MARTIN IN ALASKA. It has been stated in the *Geographical Journal* for October, and in Associated Press despatches that a Smithsonian expedition for the study of glaciers had lost all the field notes and photographic results of the season's work. As a matter of fact it was a National Geographic Society expedition under the direction of Prof. R. S. Tarr of Cornell University and Prof. Lawrence Martin of the University of Wisconsin, two of the associate editors of the *Bulletin*. No photographic negatives were lost, though, most unfortunately, one of the note books containing Prof. Tarr's data on a month's work, the first of the season, was swept away. The upset of the conveyance took place not in the Yukon but in a glacial stream in the Delta River Pass across the Alaska Range. Word has just come of the recovery by some soldiers of a sack containing a camera, field glasses, railway tickets, etc., so that a second camera and the notebook are the only things still missing, and even these may be recovered in the low water stage of the autumn.

This research expedition saw something of conditions of present glaciers and past glaciation (a) in the Kenai Peninsula near Seward and the Alaska Northern Railway, (b) along the Copper River and Northwestern Railway near Mt. Wrangell and near Childs and Miles Glaciers, (c) along the White Pass and Yukon Railway from Whitehorse to Skagway, and (d) in southeastern Alaska near Lynn Canal, Glacier Bay, Taku Inlet, and the Stikine River. General glaciation was also studied in the Copper River and Tanana Valleys and the upper Yukon River, and pleistocene physiography along the middle Yukon, as at Dawson in the Klondike region and Fairbanks, Tanana, Rampart, Circle, Fort Yukon, and Eagle in the driftless portion of Alaska. The party travelled 1200 miles up the Yukon River by steamer and made the first summer journey ever attempted from the coast at Cordova by rail to Chitina and thence 320 miles across Alaska, on a buckboard, to Fairbanks. There is a winter mail trail here and it has been traversed with pack horses in summer but never before as a whole with a wheeled vehicle. The Alaska road commission and the stage company has each made one summer wagon journey from Valdez to Fairbanks but the Tarr and Martin party made the first wagon trip across the Chugach and Alaska Ranges and through the Copper and Tanana Valleys from Cordova to Fairbanks. Results of this four months of work during the summer of 1911 will be published by the National Geographic Society. L. M.

MR. H. V. RADFORD IN NORTHERN CANADA. The Society has received a let-

ter from Artillery Lake, lat.  $63^{\circ}$  N. long.  $108^{\circ}$  W. (approx.) dated July 31, 1911, in which Mr. Radford said that he and T. G. Street, of Ottawa, had arrived from Great Slave Lake (*Bull.* Nov. 1911, p. 777), on the southern edge of the Barren Lands. They had traveled by canoe and portage 325 miles from Great Slave Lake in 21 days. At the time of writing, Mr. Radford was stopping at a camp of Yellow Knife Indians but was about to resume the journey to Chesterfield Inlet. Of the natives he says:

"These Yellow Knives are at present killing Barren Land caribou which are crossing Artillery Lake in large numbers, the southern migration having already begun. We have killed three for food with rifles. The natives are killing them with long slender spears after overtaking them in the water in their birch bark canoes. Several hundred caribou have been killed in ten days by half a dozen hunters. The women are busy drying and smoking the meat. The period of slaughter lasts about a month during which time the winter supply for the Indians and their sledge dogs must be accumulated. We have not yet seen the great herds of caribou that may be expected within the next three days. We have seen only the advance guard of the multitude, perhaps numbering 100,000 head, that pass here annually in July and August."

Mr. Radford says that he has discovered large inaccuracies in the present map of Great Slave Lake which is based largely upon the survey of Capt. George Back in 1833. Great Slave Lake is in fact two distinct lakes connected by a narrow river at one place hardly more than a fourth of a mile wide. It does not extend eastward beyond  $111^{\circ}42'$  W. long. The long narrow island appearing on Back's map and later maps is really a point of the mainland. The slender body of water extending eastward for about 100 miles is called by the Yellow Knife *Tah Che Twa*, meaning the lake at the end of which the long portage begins. This division of Great Slave Lake into two distinct lakes greatly reduces the water area of Great Slave Lake proper; but on the other hand Mr. Radford says he has found that, on our present maps, land is indicated where a part of Great Slave Lake should appear.

He had hardly food sufficient to last to Chesterfield Inlet. If the relief supplies which he hoped to find there should fail him he would endeavor to retreat to Fort Churchill. He expected to reach Chesterfield Inlet in September and, if his supplies were there, to winter at Baker Lake, a little inland from the head of Chesterfield Inlet.

CLARK UNIVERSITY'S WORK IN GEOGRAPHY. Although Clark University at Worcester has no courses in geography it is doing a valuable work in that science. During the past few years three Conferences have been held for the discussion of different parts of the world. In October, 1909, a conference was held on "China and the Far East," and its results have been published in a volume bearing that title. In October, 1910, the second conference dealt with "The Nearer East and Africa." The papers there presented were published chiefly in the *Journal of Race Development*, a quarterly publication. The third conference, which took place at the end of November, 1911, was devoted entirely to Japan: its chief papers will probably be published first in the journal mentioned above, and later as a separate volume. The object of the conferences is to gather together men who can speak with authority on the countries concerned, and who, whether by residence, travel, long study, or birth are familiar

with vital problems. It is the intention of Professor G. H. Blakeslee, to whose able management the success of the conferences is due, to so arrange the programs that all phases of life are considered. Political and historical subjects somewhat predominate, but social life, racial characteristics, education, religion, missions, industries, health and sanitation, geography, art, literature, and still other topics play a prominent part.

The *Journal of Race Development* was founded in connection with the conferences on different countries which have recently been held at Clark University, and is now in its second year. The responsible editor is Professor George H. Blakeslee, with whom is associated President G. Stanley Hall; while some twenty contributing editors represent various lines of research, including history, anthropology, geography, psychology, religion and other fields. The object of the *Journal* is to present facts of all kinds which bear on the problem of the development of races. Its special field is the more backward nations of the world, those which have just entered the comity of nations, or are still in a state of semi-civilization. In treating of these countries the editors put before themselves three purposes; first, to assist in the explanation of how races have come to be what they are; second, to discuss the methods whereby the more advanced races can aid those that are backward; and third, to bring out the many ways in which the more favored nations may be learners as well as teachers.

E. H.

#### SOUTH AMERICA

THE RAILROAD AROUND THE UPPER MADEIRA. The *Bulletin* of the Pan American Union (Nov., 1911, p. 959), says that the construction of the railroad around the nineteen falls and rapids that obstruct navigation in the Upper Madeira and the lower Mamoré Rivers is making rapid progress. It will give Northern Bolivia steam communication with the Atlantic by way of the Madeira, its tributaries, the Mamoré and Beni, and the Amazon. Starting from Porto Velho on the Madeira, the road will be 211 miles long. A short branch line up the Beni R. will circumvent the Esperanza Falls crossing the Mamoré to the main line by a bridge a half mile long.

Railroad construction began in April 1910. The road was opened for train service on Sept. 17, 1911, to mile 163, on the Bolivian frontier at the mouth of the Abuna R. The first train made the journey in a little over eight hours. It has hitherto required about a month to take goods along this stretch of the Madeira including portages around the Falls. The completed road, with its river feeders in Bolivia will give to that country a good Atlantic outlet for much of its rubber, cattle, hides, sugar, cacao, copper, gold and other commodities.

#### AFRICA

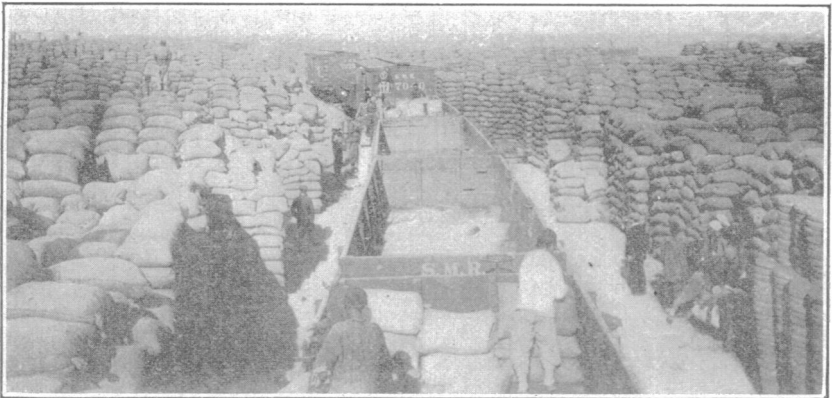
THE RAILROAD IN ERITREA. On Dec. 6 last year trains began running on the railroad from Massaua, the port of Eritrea on the Red Sea, to Asmara on the Abyssinian Plateau. The building of this road began in 1887 and it has been very gradually extended up the steep slopes to Asmara 73 miles from Massaua. The plateau having been reached, it will be comparatively easy to advance the line southward in Abyssinia and westward to the Anglo-Egyptian Sudan. Both of these projects are now under discussion. (*Rivista Geogr. Ital.*, Vol. 18, 1911, No. 10, p. 627.)

## ASIA

**MANCHURIA'S GREAT SOUTHERN PORT.** Dairen is a seaport with a deep harbor on the Liaotung Peninsula of Manchuria. The Russians founded the port in 1899 on the south shore of Ta-lien-wan Bay and gave it the name of Dalny. The Russians were convinced that, as the southern commercial terminus of the Trans-Siberian R.R., the port would have a great future. Before the war between Russia and Japan, the port had made wonderful development and the Russians had built large wharves, warehouses, workshops, a cathedral, etc.

During the war between Japan and Russia, a large part of the port was destroyed. The Japanese have now rebuilt and extended the port, renamed it Dairen and have in the past four years developed an enormous export trade in beans, bean-cake, and oil-cake.

This picture shows a part of the wharves filled with bags of beans that were grown in Manchuria and now ready for export. Beans are one of the great crops of that region and the *Bulletin* of the Suez Canal Company (Nov. 2, 1911) says that a large part of the 1911 crop had already been sold in Europe. Manchuria is a splendid wheat country and both wheat and barley are largely grown; but of far greater importance in the export trade is beans which, together with bean-cake, and bean-oil, are the most important items in the external trade.



Export Beans on the Wharves of Dairen.

## EUROPE

**POPULATION OF IRELAND.** The census of Ireland, taken on the night of April 2, 1911, shows a total population for the island of 4,381,951 of whom 2,186,804 are males and 2,195,147 are females. These figures show a decrease in the population since 1901 of 76,824 persons. The population of the island in 1841 was 8,196,597 and every decennial enumeration since that time has shown a decrease.

## POLAR

**OCEAN ROUTE TO THE YENISEI AND OBI RIVERS.** *The Board of Trade Journal* (Jan. 11, 1912, p. 88) says that the Russian Government Committee, which has

been considering the project of the English navigator, Capt. Webster, for the establishment of regular trading intercourse between England and Siberia, has recommended that Capt. Webster be entrusted with the task of organizing regular steamship service to the Kara Sea and the estuaries of the Yenisei and Obi. His proposal is that ordinary tramp steamers shall run between England and Novaya Zemlia, calling on their way at Baltic ports. At Novaya Zemlia there is a good harbor on the southwest coast in lat.  $72^{\circ}$  N. which will be the discharging point for the Yenisei and Obi. Thence the freight will be carried to these Siberian rivers in vessels fitted to resist ice. They will be able to make three round trip voyages during the two months of the year that navigation is open. In addition to grain, the sea route will provide an outlet for Siberian timber, graphite, mica and other minerals.

#### OBITUARY

GEORGE DAVIDSON. George Davidson, Emeritus Professor of Geography in the University of California, died at his home in San Francisco on December 2d, aged eighty-seven years. As a scientific Assistant in the Coast Survey he went to California in 1850, shortly after the discovery of gold there. He and three other young officers volunteered to go to the west coast and to perform for one year any duty, however hard or manual, incident to the survey of the western coast. This pledge was kept, not for one year only, but through all the subsequent years of the gold excitement. Labor was so expensive that Davidson was in the singular position of having to pay more for the services of subordinates than he himself received. Professor Davidson, as he was best known after 1870 when that title was given him by the University of California, was a most indefatigable worker not only as an officer of the Coast and Geodetic Survey in charge of field and administrative work, but also as a scientific investigator. An example of his untiring energy was given when the question of the variation of latitude was mooted by astronomers, and the International Geodetic Association proposed a plan for systematic observations all around the world to test the question. Professor Davidson voluntarily undertook to assist in this and began systematic observations at the Coast and Geodetic Survey's astronomical station in San Francisco in May, 1891. Every night, favorable for observations, during a period of fifteen months was devoted to this work.

Professor Davidson was in charge of the following expeditions sent out by the Government in the interests of science: To observe the total solar eclipse, at Humboldt Bay, Cal., May, 1854; to observe the solar eclipse, at Chilkat, Alaska, August 7, 1869; to observe the transit of Venus, at Nagasaki, Japan, December 9, 1874; to observe the total solar eclipse, at Santa Lucia Mountain, Cal., January 11, 1880; and to observe the transit of Venus, in New Mexico, December 6, 1882. He accompanied the first Government expedition to Alaska after the acquisition of that territory in 1867, and in addition to determining the latitude and longitude of the principal Russian settlements where the vessel touched, he collected a large amount of geographical information concerning that little-known country.

In 1874 he made a careful study, from the engineer's standpoint, of harbor improvements, etc., in Europe and the Orient, which prepared him to render valuable service on the Advisory Board of Harbor Improvement, San Francisco,



and as a member of the Commission of Irrigation for California. When Cambridge, Mass., and San Francisco, Cal., were connected by telegraphic longitude, he was in charge of the San Francisco end of that work.

His books, pamphlets, and papers upon many phases of scientific, engineering, and geographical research number more than 260. They include papers on solar eclipses, transits of Venus, the geography and history of the Pacific States and Alaska, discussions of the early English, Spanish, and Russian voyages of discovery on the Pacific coast, and sailing directions for California, Oregon, Washington, and Alaska. His *Pacific Coast Pilot* is a volume of 700 pages, showing his remarkable capacity for study and research by its wealth of valuable historical and geographical information. Other scientific publications were two field catalogues of time stars, one of 983 and the other of 1278 stars; and a table of star factors, A. B. and C., for the reduction of time observations.

In recognition of the scientific work of Professor Davidson the degree of Ph.D. was conferred upon him by Santa Clara College in 1876; that of Sc.D. by the University of Pennsylvania in 1889; and that of LL.D. by the University of California in 1910. He was elected to the National Academy of Sciences in 1874, Regent of the University of California in 1877; appointed member of the Mississippi River Commission in 1888; delegate to the International Geodetic Association in 1889; elected corresponding member of the Bureau of Longitudes, France, 1894; elected member of the Academy of Sciences of the Institute of France in 1897; and created Knight of the Royal Order of Saint Olaf, Norway, in 1907. In 1908, he received the Daly Gold Medal of the American Geographical Society.

He was for sixteen years President of the California Academy of Sciences, and for thirty years President of the Pacific Geographical Society. In 1867 he devised a new instrument of precision which is known as the Davidson Meridian Instrument, and it has been generally used by the Coast and Geodetic Survey. He also perfected new forms for vertical clamps and tangent screws.

In addition to his services in the Survey he served on the Irrigation Commission of California; the Advisory Board of Harbor Improvement, San Francisco, Cal.; the Mississippi River Commission; and the United States Assay Commission. After severing his connection with the Coast and Geodetic Survey in 1895, Professor Davidson was a consulting engineer in San Francisco. Later, he was appointed Professor of Geography in the University of California, where his profound knowledge of his subject, his facility in imparting information, and his genial way with the students made this class one of the most popular in the university.

J. J. GILBERT.

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Mr. William Churchill has sent to the *Bulletin* these reminiscences of Professor Davidson:

"The Lick Observatory was Professor Davidson's suggestion. James Lick was seeking to dispose of his wealth. He had no knowledge of astronomy, no interest in the science, but he knew Davidson and respected the man who disregarded money-making for a higher though less gainful pursuit. His thought was drawn in the direction of a great telescope. He learned from Prof. Davidson that the greatest refractor was 30 inches. His idea was to multiply the Poltava glass by two; in other words, California should have a five-foot glass. He wrote in his will that the glass to bear his name should be twice as large as

the biggest in the world. It took long argument from Davidson to secure the formation of a plan which was within human possibility. The observatory which crowns Mount Hamilton in the dry sky above the Santa Clara valley is the Lick Observatory, but we owe it to George Davidson.

"Word came to Professor Davidson, one day, that a butcher in Oakland was working to become an astronomer, beginning at the bottom, striving to make his own telescope and mount. Davidson went across the bay and talked astronomy to the butcher, took him to his own observatory on the summit of a San Francisco hill and gave the young enthusiast his first glimpse at the heavens through a powerful equatorial. Together they worked over the young man's home-made observatory. In Oakland was a certain rich man and George Davidson brought it to pass that the wealth of the rich man and the butcher's zeal for the heavenly science were harnessed for the public good. The city of Oakland was the first city of the world in which an observatory was made a part of the public school system, the Chabot Observatory; and the butcher who had sacrificed so much to make his own glass was appointed Director and had the rare pleasure of installing a good glass.

"When Professor Davidson wrote me after the San Francisco earthquake, the burden of his letter was that due credit should be given to the Weather Observer who had saved his instruments and had climbed columns still hot to reopen a station on a ruin over which the fire had swept. Not a word to tell me, that which I learned from others, that his own observatory had been thrown open to homeless women and children and that he had dismounted his equatorial lest in another shock it might menace these helpless sufferers."

COUNCILLOR JOHN S. BARNES. The death of Captain Barnes occurred on Nov. 22. At a meeting of the Council of the Society on Dec. 21, 1911, his death was announced and the following minute was adopted:

"In the death of John S. Barnes, The American Geographical Society has lost one of its most distinguished Fellows and the Council one of its most useful members. Born at West Point within the boundary of the nation's military reservation, and educated at The Naval Academy, Annapolis, his earliest associations as well as his academic environment tended to preserve in him the soldierly traits, which his distinguished ancestors had implanted, and helped develop in him the qualities which made him so useful in later life. His naval career early gave him a warm interest in travel and in geographical discovery and in 1874 he became a Fellow of this Society, and in 1907 a member of its Council. His wide range of intellectual interests, his devotion to the objects of his pursuit, his sturdy sense of obligation and devotion to the performance of all duties entrusted to him, and his sterling common sense and good judgment, all served to make him a valued and useful member of the Council and one whose absence will be much felt.

"Therefore, it is resolved that the Council of The American Geographical Society order that this minute be spread upon its records and that a copy of it be transmitted to the family of its late member, Captain John S. Barnes, together with the sympathy of this body for them in their bereavement."